

### **Amendments to the Claims**

The following claims are intended to replace all prior versions and listings of the claims in this application:

1. (Cancelled)
2. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the derivative comprises a multiplicity of protected carbonyl groups selected from at least one of hemiacetal groups and acetal groups.
3. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the protected carbonyl groups include acetal groups.
4. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the organic compound is selected from alkanols, polyols and mixtures thereof.
5. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the organic compound comprises at least one polyol.
6. (Previously Presented) A polymeric antimicrobial composition according to claim 5 wherein the polyol comprises a polyalkylene glycol.
7. (Previously Presented) A polymeric antimicrobial composition according to claim 5 wherein the polyol comprises a polyethylene glycol.
8. (Cancelled)
9. (Previously Presented) A polymeric antimicrobial composition according to claim 5 wherein the polyol is a polyethylene glycol of molecular weight in the range of from 200 to 1000.

10. (Currently Amended) A polymeric antimicrobial composition for treating or preventing gastrointestinal disease in animals by gastrointestinal administration, said antimicrobial composition comprising the (a) a polymeric antimicrobial composition of claim 48 comprising a derivative of poly(2-propenal, 2-propenoic acid) having protected carbonyl groups formed by reaction between a poly(2-propenal, 2-propenoic acid) and an organic compound containing one or more hydroxyl groups under conditions effective to form said derivative of poly(2-propenal, 2-propenoic acid) having protected carbonyl groups and (b) a pharmaceutically or veterinarily acceptable inert carrier for gastrointestinal administration to animals.

11. (Previously Presented) A polymeric antimicrobial composition according to claim 10 wherein the carrier for gastrointestinal administration is selected from the group consisting of controlled release polymers, olive oil, peanut oil, sesame oil, sunflower oil, arachis oil, coconut oil, liquid paraffin, ethylene glycol, propylene glycol, polyethylene glycol, ethanol, propanol, isopropanol, glycerol, fatty alcohols, triglycerides, polyvinyl alcohol, partially hydrolysed polyvinylacetate and mixtures thereof.

12. (Previously Presented) A polymeric antimicrobial composition according to claim 10 in the form of a feed additive or drinking water additive comprising from 0.1 to 70% by weight of the antimicrobial.

13. (Currently Amended) A drinking water composition comprising water and an antimicrobially effective amount of a polymeric antimicrobial composition according to ~~claim 10~~ claim 48.

14. (Cancelled)

15. (Previously Presented) A drinking water composition according to claim 13 containing in the range of from 0.0001 to 10% by weight of the polymeric antimicrobial composition.

16. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 comprising a further active agent that is a selected from the group consisting of antimicrobials and chemotherapeutic agents agent.

17. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 comprising a further active agent that is an antimicrobial

~~selected from the group consisting of antimicrobials, chemotherapeutics and sunscreens, wherein the further active agent includes one or more groups selected from the group consisting of phenyl compounds, aromatic compounds, alkyl compounds and amphipathic compounds.~~

18-23 (Cancelled)

24. (Currently Amended) A method for treatment or prophylaxis of gastrointestinal disease in an animal comprising gastrointestinal administration to the animal of an antimicrobially effective amount of a polymeric antimicrobial composition according to ~~claim 10~~ claim 48.

25. (Previously Presented) A method according to claim 24 wherein the polymeric antimicrobial composition is orally administered.

26. (Currently Amended) A method according to claim 24 wherein the animal is suffering from at least one gastrointestinal disease selected from the group consisting of gastroenteritis, ulcer, diarrhoea, ~~gastrointestinal cancer~~, dysentery, and insufficient weight gain.

27. (Previously Presented) A method according to claim 24 wherein the animal is suffering from at least one of diarrhoea, gastroenteritis, and dysentery.

28. (Original) A method according to claim 24 wherein the animal is selected from the group consisting of dogs, pigs, sheep, horses, cattle, cats, poultry, ducks, turkeys and quail.

29. (Original) A method according to claim 24 wherein the animal is selected from ruminant animals and the antimicrobial is rectally administered.

30. (Original) A method according to claim 24 wherein the animal is selected from poultry and pigs.

31. (Original) A method according to claim 30 wherein the animal is a partially grown pig.

32. (Currently Amended) A method for treatment or prophylaxis of porcine post weaning colibacillosis comprising orally administering to young pigs after weaning, an antimicrobially effective amount of a polymeric antimicrobial composition of ~~claim 10~~ claim 48.

33. (Previously Presented) A method according to claim 24 wherein the polymeric antimicrobial composition is administered at a dose of from 0.05 to 5000 mg/kg/day.

34. (Previously Presented) A method according to claim 24 wherein the polymeric antimicrobial composition is administered at a dose in the range of from 0.5 to 500 mg/kg/day.

35. (Previously Presented) A method according to claim 32 wherein the young pigs are administered a dose of the polymeric antimicrobial composition in the range of from 0.05 to 50 mg/kg/day.

36. (Previously Presented) A method according to claim 24 wherein the gastrointestinal disease results from one or more microbes selected from the group consisting of Coliforms, Salmonella, *P.aeruginosa*, Helicobacter, Proteus, Enterobacteria, Yeasts, Protozoa, Clostridia and Shigella.

37. (Previously Presented) A method according to claim 24 wherein the gastrointestinal disease results from one or more of *H. pylori* and Coccidia.

38. (Original) A method according to claim 24 wherein the gastrointestinal disease results from at least one of enterotoxigenic *E. coli* and  $\beta$ -haemolytic *E. coli*.

39. (Currently Amended) A method of treatment or prevention of necrotic enteritis in poultry comprising administering to poultry an effective amount of a polymeric antimicrobial composition of ~~claim 10~~ claim 48.

40-41 (Cancelled)

42. (Currently Amended) A method of treatment or prevention of coccidiosis in poultry comprising administering to poultry an antimicrobially effective amount of a polymeric antimicrobial composition of ~~claim 10~~ claim 48.

43. (Cancelled)

44. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the polymeric antimicrobial composition exhibits a significant reduction or absence of an  $H^1$ NMR signal at about  $\delta 5.5$  in  $D_2O$ , as compared to poly(2-propenal, 2-propenoic acid).

45. (Currently Amended) A polymeric antimicrobial composition according to ~~claim 10~~ claim 48 wherein the organic compound is a phenol.

46. (Currently Amended) An animal feed composition comprising a feed material and an antimicrobially effective amount of a polymeric antimicrobial composition according to ~~claim 10~~ claim 48.

47. (Previously Presented) An animal feed composition according to claim 46 wherein the polymeric antimicrobial composition is present in an amount of from 0.001 to 25% by weight of the total feed composition.

48. (New) A polymeric antimicrobial composition comprising a derivative of poly(2-propenal, 2-propenoic acid) having protected carbonyl groups formed by reaction between a poly(2-propenal, 2-propenoic acid) and an organic compound containing one or more hydroxyl groups under conditions effective to form said derivative of poly(2-propenal, 2-propenoic acid) having protected carbonyl groups.